

What is claimed is:

1. A polyamide obtained by polycondensation of a diamine component containing at least 50 mol% of
5 2-methyl-1,5-pentanediamine and a dicarboxylic acid component containing at least 50 mol% of azelaic acid,
comprising the following properties of (1) to (4),
(1) when a stretched film is polarized in an electric field of 200 MV/m, a remanent polarization is at least 30 mC/m²,
10 (2) the relative viscosity of a 1g/dl solution of the polyamide in 96 % concentrated sulfuric acid at 25 °C is 1.3 to 5.0,
(3) the glass transition temperature, measured with a differential scanning calorimeter, of the polyamide is 80
15 °C or less and a calorific value at a cooling crystallization exotherm peak is 5J/g or less, and
(4) the polyamide is soluble in an amount of at least 5 mass % at 25 °C in at least one member selected from the group consisting of methanol, ethanol and 2-propanol.
20
2. The polyamide according to claim 1,
wherein the diamine component contains at least 70 mol % of 2-methyl-1,5-pentanediamine and the dicarboxylic acid component contains at least 70 mol% of azelaic acid.
25
3. The polyamide according to claim 1,
wherein the diamine component contains less than 50 mol % of at least one member selected from the group consisting of 1,5-pentanediamine, 1,7-heptanediamine, 1,9-nonanediamine,
30 metaxylylene diamine and 1,3-bis(aminomethyl)cyclohexane.
4. The polyamide according to claim 1,

wherein the dicarboxylic acid component contains less than 50 mol % of at least one member selected from the group consisting of glutaric acid, suberic acid, undecanedioic acid, isophthalic acid and 1,3-cyclohexanedicarboxylic acid.

5

5. The polyamide according to claim 1,
wherein the diamine component contains at least 90 mol % of 2-methyl-1,5-pentanediamine and the dicarboxylic acid component contains at least 90 mol % of azelaic acid.

10

6. The polyamide according to claim 1,
wherein less than 50 mol % of total repeating bond units of the polyamide are obtained by using an amide bond-formable compound.

15

7. The polyamide according to claim 6,
wherein the amino bond-formable compound is at least one selected from the group consisting of δ -valerolactam, 5-aminopentane acid, 7-aminoheptane acid, 9-aminononane acid and 11-aminoundecanoic acid.

20

8. The polyamide according to claim 1,
wherein the molar ratio of the diamine component and the dicarboxylic acid component is 1 : 0.9 to 1 : 1.1.

25

9. The polyamide according to claim 1,
wherein the dicarboxylic acid component is at least one dicarboxylic acid derivative selected from the group consisting of dicarboxylic acid, a dicarboxylic acid ester, a dicarboxylic acid chloride, an active acyl derivative and dinitrile.

30

10. The polyamide according to claim 1,
wherein the diamine component is at least one diamine
derivative selected from the group consisting of diamine,
N-acetyldiamine, diisocyanate and N-silylated diamine.
- 5
11. A resin composition containing the polyamide as
recited in claim 1 and an electrically conductive material.
12. The resin composition according to claim 11,
10 which has a volume resistivity of $10^{12} \Omega \cdot \text{cm}$ or less.
13. The resin composition according to claim 11,
wherein the electrically conductive material is an
inorganic electrically conductive material or an organic
15 electrically conductive material.
14. The resin composition according to claim 11,
which further contains a filler for vibrational energy
absorption.
- 20
15. The resin composition according to claim 14,
wherein the filler is at least one member selected
from the group consisting of mica flakes, glass pieces, a glass
fiber, a carbon fiber, calcium carbonate, barite and
25 precipitated barium sulfate.